

REMARKS

The Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated July 21, 2010 has been received and its contents carefully reviewed.

Summary of the Office Action

In the Office Action, claims 1, 11, and 18 are objected to because of the following informalities.

Claims 1, 4, 6, 11, 12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 6,295,105 to *Lee '105* (hereinafter "*Lee '105*") in view of United States Patent No. 6,445,430 to *Sakamoto* (hereinafter "*Sakamoto*"). Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Lee '105* and *Sakamoto* in view of United States Patent Publication No. 2003/0223020 to *Lee '020* (hereinafter "*Lee '020*"). Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lee '105* and *Sakamoto* in view of Japanese Patent No. 2001-338512 to *Shiotani* (hereinafter "*Shiotani*"). Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lee '105* and *Sakamoto* in view of United States Patent Publication No. 2003/0053008 to *Nakano* (hereinafter "*Nakano*").

Summary of the Response to the Office Action

With this response, claims 1, 2 and 11 have been amended, and claim 18 has been canceled without prejudice or disclaimer. No new matter has been added.

Accordingly, claims 1, 2, 4-7, 11-13, and 17 are currently pending in this application.

All Claims Define Allowable Subject Matter

Claims 1 and 11 have been amended to address the Examiner's objections, and Applicant respectfully requests reconsideration and withdrawal of this objection in light of this amendment.

Claims 1, 4, 6, 11, 12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lee '105* in view of *Sakamoto*. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Lee '105* and *Sakamoto* in view of *Lee '020*. Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lee '105* and *Sakamoto* in view of *Shiotani*. Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lee '105* and *Sakamoto* in view of *Nakano*. Applicant respectfully traverses this rejection for at least the following reasons.

To establish an obviousness rejection under 35 U.S.C. 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (Supreme Court, 1966).

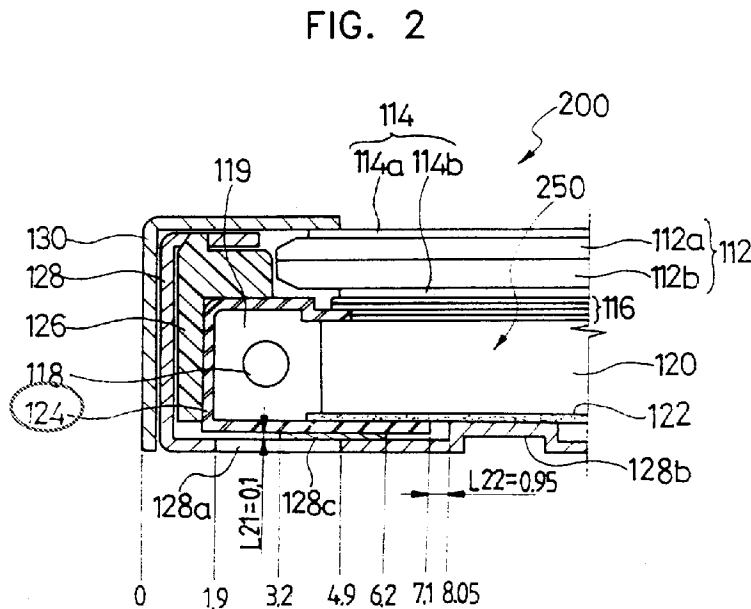
In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1385, 1396 (2007). The Federal Circuit requires that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to

support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

Finally, even if the prior art may be combined, there must be a reasonable expectation of success, and the reference or references, when combined, must disclose or suggest every claimed feature. *See in re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

First of all, a liquid crystal display device disclosed by *Lee '105* merely belongs to “prior art” of the present invention, since the liquid crystal display of *Lee '105* includes lamp cover 124 (not a reflection sheet).

Fig. 2 of *Lee '105* is reproduced and annotated below for convenience.



Lee '105 discloses that “The backlight assembly 250 includes a fluorescent lamp 118 disposed in one edge of the LCD panel 112, a lamp holder 119 for accommodating the fluorescent lamp 118, a lamp cover 124 for covering the outer periphery of the lamp holder 119 and which reflects the light emitted from the fluorescent lamp 118 (column 3, lines 35-50). A brass or SUS430 having excellent luminance and uniformity and less current loss is employed for the lamp cover 124 (column 3, lines 63-65).”

Meanwhile, according to the related art of the present invention, the lamp cover 44 of the related art is made of a metal based material, and its inner surface is coated with silver (Ag) or covered with a silver (Ag) sheet to function as a reflector. The lamp cover 44 is made using a complex-processed expensive material, thereby increasing product costs of the liquid crystal display device. Furthermore, small impacts will deform the lamp cover 44, unless the lamp cover 44 is fully enclosed by the mold frame 24. However, this complicates assembly of the liquid crystal display device. In addition, light unnecessarily leaks out through a gap between the deformed portion of the lamp cover 44 and the optical sheets 23 or reflection sheet 21, thereby degrading image quality of the liquid crystal display device. Moreover, the gap increases as the device is subjected to additional impacts, thereby increasing the light leakage.

Accordingly, the present invention is directed to a liquid crystal display device that substantially obviates one or more problems due to limitations and disadvantages of the related art.

An object of the present invention is to provide a liquid crystal display device enabling to prevent light leakage simply without making a LCD fabrication process complicated or increased

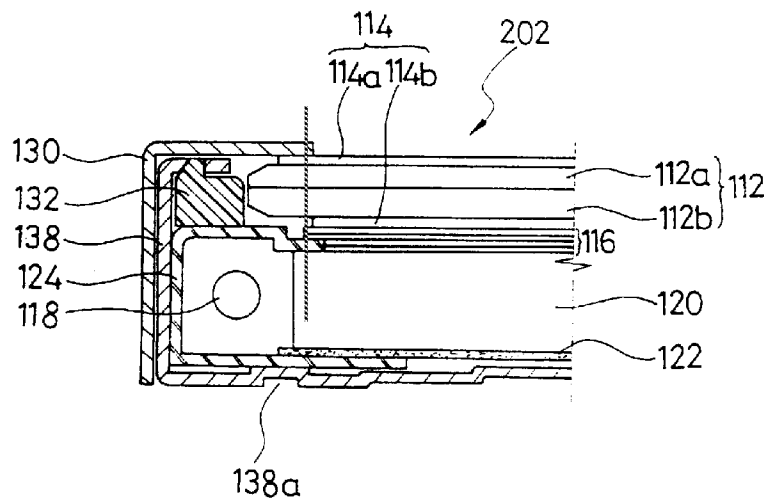
by substituting a lamp cover enclosing a lamp with a **reflection sheet**, overlapping the reflection sheet with a light guide plate, and making a bottom cover support the reflection sheet.

Further, even if cited references may be combined, independent claims 1 and 11 are allowable over *Lee '105* in view of *Sakamoto* in that claims 1 and 11 recite a combination of elements including, for example, “a reflection sheet having opposed first and second end portions and substantially enclosing an outer side of fluorescent lamp except for a light exit portion, wherein the reflection sheet is formed of a synthetic resin, and wherein the second end portion of the reflection sheet overlaps the reflection plate and the rear plane of the light guide plate; optical sheets over the projection plane of the light guide plate and overlapping the first end portion of the reflection sheet by an overlap amount (B); a bottom cover extending from a rear side of the reflection plate to an outer side of the reflection sheet such that an end portion of the bottom cover extends to the outer side of the reflection sheet substantially following a contour of the reflection sheet to substantially surround and contact all the outer side of the reflection sheet except for a predetermined interval (A) from the light guide plate and the overlap amount (B), wherein the end portion of the bottom cover is positioned to leave the same predetermined interval (A) from the optical sheets, and the first end portion of the reflection sheet overlaps the light guide plate by the same overlap amount (B).”

Applicant respectfully asserts that *Lee '105* fails to teach or suggest at least such a feature.

Fig. 9 of *Lee '105* is reproduced and annotated below for convenience.

FIG. 9



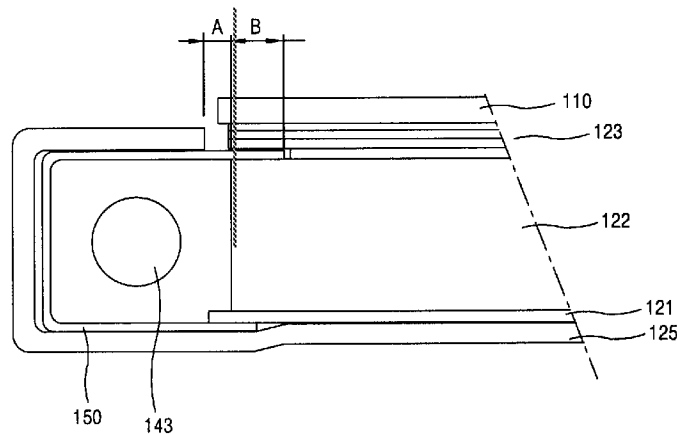
As shown above, the structure of *Lee* '105 includes a mold frame 132 inserted between the back cover 138 and the lamp cover 124. Accordingly, *Lee* '105 fails to teach or suggest at least a bottom cover extending from a rear side of the reflection plate to an outer side of the reflection sheet such that an end portion of the bottom cover extends to the outer side of the reflection sheet substantially following a contour of the reflection sheet to substantially surround and contact all the outer side of the reflection sheet except for a predetermined interval (A) from the light guide plate and the overlap amount (B) (i.e., claims 1 and 11).

Moreover, *Lee* '105 does not disclose that “wherein the end portion of the bottom cover is positioned to leave the same predetermined interval (A) from the optical sheets, and the first

end portion of the reflection sheet overlaps the light guide plate by the same overlap amount (B)” as per Applicant’s amended independent claims 1 and 11.

Fig. 3b of the present invention is reproduced and annotated below for convenience.

FIG. 3b



None of the cited references, singly or in combination, teaches or suggests the features of the present invention. For at least these reasons, Applicant respectfully requests that the Office withdraw the 35 U.S.C. 103(a) rejections of independent claims 1 and 11. Claims 2, 4-7, 12, 13, and 17 depend directly or ultimately from independent claims 1 and 11, respectively. It stands to reason that the 35 U.S.C. 103(a) rejections of those dependent claims should be withdrawn as well.

Applicant believes the foregoing amendments and remarks place the application in condition for allowance and early, favorable action is respectfully solicited.

CONCLUSION

In view of the foregoing, Applicant respectfully requests entry of the amendments, reconsideration and the timely allowance of all pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such as an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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